

10/567563

IAP20 Rec'd PCT/PTO 08 FEB 2006 PATENT

IN THE U.S. PATENT AND TRADEMARK OFFICE

Applicant(s): Thomas HEBERLEIN
Int'l Application No.: PCT/EP2004/007797
Application No.: NEW APPLICATION
Filed: February 8, 2006
For: PROTECTOR SUITABLE FOR CASCADE CONNECTIONS
AND CORRESPONDING METHOD FOR SAFETY-
CONDITIONED SWITCHING

LETTER

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February 8, 2006

Sir:

Amended claims are attached hereto (which correspond to Article 34 amendments or to claims attached to the International Preliminary Examination Report), as required by 35 U.S.C. § 371(c)(3). The Article 34 amended claims are incorporated in the included substitute specification and Preliminary Amendment.

Respectfully submitted,

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PCT/EP2004/007797
2003P07193WOUS

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actuated. If the on pushbutton 23 at the emergency-stop device 21 is actuated first, the emergency-stop device 21 does not switch its actuators 24, 24' on since the actuators 14, 14' of the emergency-stop device 11 still interrupt the emergency-stop circuit of the emergency-stop device 21. In order to switch the load circuits on again, initially the on pushbutton 13 of the emergency-stop device 11 therefore needs to be actuated. Thereupon, the actuators 14, 14' of the emergency-stop device 11 are driven and the emergency-stop circuit of the emergency-stop device 21 is closed. Only now can the emergency-stop device 21 be started by actuating its on pushbutton 23. This means that a prescribed sequence needs to be maintained for actuating the on pushbutton. However, such an inconvenient operating method for systems is unsuitable in industry.

A similar safety switching device system has been disclosed in document DE 100 11 211 A1. This safety switching device system comprises two safety switching devices which correspond to one another in terms of their design and their operation. The two devices are connected one behind the other with an emergency-stop switch connected in between. In addition, a starting switch is provided on both devices.

The object of the present invention therefore consists in proposing a protective device or protective system and a corresponding method for safety-related shutdown of an electrical unit, which device or system and method make operation of more complex systems more convenient.

This object is achieved according to the invention by a protective device for the safety-related shutdown of an electrical unit having a first input for the purpose of receiving a switch-off signal, a second input for the purpose of receiving a switch-on signal in the form of a switch-on

pulse, and an output for the purpose of driving the electrical unit and by a pulse processing device for the purpose of setting the protective device to an activation state, in which it can be switched on when the switch-off signal is not applied, for a predetermined period of time from reception of the switch-on pulse.

In addition, the invention provides a method for safety-related switching of an electrical unit by means of receiving a switch-off signal, switching the electrical unit off, receiving a switch-on signal in the form of a switch-on pulse, and switching the electrical unit on, it being possible to switch the electrical unit on only for a predeterminable